

CLAIMS

We claim:

1. A line conditioner for a bi-directional electrically conductive voice transmission medium usable for both voice-band and high-frequency digital transmission,

5 comprising:

a first component group having a first inductor connected in parallel to a first capacitor, the first component group being connectable in series with a first conductor of the transmission medium; and

10 a second component group having a second inductor connected in parallel to a second capacitor, the second component group being connectable in series with a second conductor of the transmission medium, whereby when the first and second component groups are connected in series with the first and second conductors respectively, the transmission medium is conditioned to permit the high-quality transmission of voice-band signals and high-frequency digital signals.

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2. The line conditioner according to claim 1, wherein the first and second component groups each further comprise first and second surge protectors respectively, wherein the first and second surge protectors are connected in parallel circuit formation with the first and second capacitors respectively.

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3. The line conditioner according to claim 1, wherein the bi-directional electrically conductive voice transmission medium comprises a twisted pair cable.

4. The line conditioner according to claim 1, wherein the high frequency digital signals conform to the ADSL protocol.

5. A method of conditioning a voice-band transmission medium comprising
5 the steps of:

placing in series with a first conductor of the transmission medium a component group comprising a first inductor and a first capacitor connected in parallel with the first inductor; and

placing in series with a second conductor of the transmission medium a

10 component group comprising a second inductor and a second capacitor connected in parallel with the second inductor; whereby the transmission medium is conditioned to permit the transmission of high-quality voice-band signals and high-frequency digital signals.

15 6. The method according to claim 5, further comprising the step of placing in parallel with each of the first and second component groups a first and second surge protector respectively.

7. The method according to claim 5, wherein the transmission medium is a
20 twisted pair cable.

8. The method according to claim 5, wherein the high-frequency digital signals conform to the ADSL protocol.

9. A method of conditioning a voice-band transmission medium comprising the steps of:

locating a load coil device installed on the transmission medium;

5 connecting a first capacitor in parallel circuit formation with the load coil device on a first conductor of the transmission medium; and

connecting a second capacitor in parallel circuit formation with the load coil device on a second conductor of the transmission medium whereby the transmission medium is conditioned to permit the transmission of high-quality voice-band signals and
10 high-frequency digital signals.

10. The method according to claim 9, further comprising the steps of:

connecting a first surge protector in parallel with the first capacitor; and

connecting a second surge protector in parallel with the second capacitor.

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11. The method according to claim 9, wherein the voice-band transmission medium is a twisted pair cable.

12. The method according to claim 9, wherein the high-frequency digital signals conform to the ADSL protocol.
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13. A method of making a transmission line conditioner device for installation on a voice-band transmission medium comprising the steps of:

creating two component groups, each having in parallel an inductor and a capacitor wherein the component groups are each positioned in series with a respective input connection and a respective output connection; and

- encasing the component groups in a package so that the respective input
5 connections and respective output connections are conductively accessible from outside
of the package to create a transmission line conditioner device.

14. The method according to claim 13, wherein the component groups each
further comprise a surge protector in parallel with the inductor and a capacitor of each
10 component group.

15. The method according to claim 13, wherein the voice-band transmission
medium is a twisted pair cable.

- 15 16. An improved build-out device for a voice-band transmission medium
comprising:

a component group comprising an inductor and a capacitor connected in series
circuit formation with one another;

- a first lead line, the first lead line being connectable in series with a first
20 conductor of the transmission medium; and

a second lead line, the second lead line being connectable in series with a second
conductor of the transmission medium, wherein the first and second lead lines are related
in parallel circuit formation and the component group is connected across the first and

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second lead lines, whereby when the first and second lead lines are connected in series with the first and second conductors respectively, the transmission medium is conditioned to permit the high-quality transmission of voice-band signals and high-frequency digital signals.

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17. The improved build-out device according to claim 16, wherein the bi-directional electrically conductive voice transmission medium comprises a twisted pair cable.

10 18. The improved build-out device according to claim 16, wherein the high frequency digital signals conform to the ADSL protocol.

19. A method of conditioning a voice-band transmission medium comprising the steps of:

15 placing a first end of a component group having two ends in conductive contact with a first conductor of the transmission medium, wherein the component group comprises an inductor and a capacitor connected in series circuit formation with respect to one another; and

20 placing a second end of the component group in conductive contact with a second conductor of the transmission medium which is in parallel circuit formation to the first conductor, whereby the component group is connected across the parallel conductors, and whereby the transmission medium is conditioned to permit the transmission of high-quality voice-band signals and high-frequency digital signals.

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20. The method according to claim 19, wherein the voice-band transmission medium is a twisted pair cable.

5 21. The method according to claim 19, wherein the high-frequency digital signals conform to the ADSL protocol.

22. A method of making an improved transmission line build-out device for installation on a voice-band transmission medium comprising the steps of:

10 creating a component group having an inductor and a capacitor connected in series circuit formation with respect to each other, wherein the component group is conductively connected at one end to a first lead line having an input connection and an output connection and conductively connected at a second end to a second lead line in parallel circuit formation with the first lead line, the second lead line having an input connection
15 and an output connection; and

encasing the component group in a package so that the respective input connections and respective output connections of the first and second lead lines are conductively accessible from outside of the package to create an improved transmission line build-out device.